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10/377,580

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02/20/2007

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EXAMINER

LEUNG, WAI LUN

ART UNIT

PAPER NUMBER

2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/377,580

Applicant(s)

MACIOCCO ET AL.

Examiner

Danny Wai Lun Leung

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20070125
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/25/2007 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-5, 7-15, 17-19, 21-29, 31-33, 35-43, 45-47, 49-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (*US 20020154360A1*) in view of Baldine et al., "Jumpstart: A Just-in-Time Signaling Architecture for WDM Burst-Switched Networks," *IEEE Commun. Mag.*, vol. 40, no. 2, pp. 82-89, Feb. 2002.

Regarding to claims 1 and 43, Liu discloses a system for use in a wavelength-division multiplexed (WDM) photonic burst switched (PBS) network, the system comprising: a burst framer (*interface 7, fig 19*) to format information in a PBS burst frame (*fig 20*) to be transmitted over the PBS network (*paragraph 118*), the PBS burst frame to include a PBS

burst header common to PBS control bursts and PBS data bursts (*Common Slot Layer Preamble is common to PBS control bursts and PBS data bursts, as agreed on by applicant on lines 1-2 of page 14 on applicant's reply filed 8/10/2006; also shown on Table 2 of Liu*), the PBS burst header having fields to indicate whether the PBS burst frame is a PBS control burst (*Slot Type indicate whether they are control slot or data slot, Table 2*).

Liu does not disclose expressly wherein the PBS burst header having fields to indicate whether the control burst is transmitted on a wavelength different from that of an associated PBS data burst, and for the PBS burst header having fields to indicate whether a label for use in a generalized multi-protocol label swapping (GMPLS)-based system, has been established for the PBS burst frame. However, Liu teaches (*in paragraph 55*) that there are many possible ways to frame the transmission of data and control slots, including transporting them in the same DWDM channel (*wavelength*) for In-Band transmission, or transmitting them in separate control channels for Out-Band transmission. Liu further teaches the burst header packet contain information to describe its coupled optical data burst such as when it will arrive and in which channel it will arrive (*paragraph 52*); and a header having fields to indicate whether a label, for use in a generalized multi-protocol label swapping (GMPLS)-based system has been established for the PBS burst frame (*paragraph 128; Table 4 listed a field that distinguish if MPLS encapsulation is used*).

Furthermore, Baldine, from the same field of endeavor, teaches a burst framing structure for a WDM photonic burst switched network, wherein a PBS burst frame is to be transmitted over a PBS network (*fig 3, page 88*), the PBS burst frame to include a PBS burst header (*common*

Art Unit: 2613

*header, fig 4) common to PBS control bursts and PBS data bursts (Signaling Message Format, as described on col 2 of page 88, is applicable to the signaling message (control burst) and the data burst as described in col 1, of page 83), the PBS burst header having fields to indicate whether: the PBS burst frame is a PBS control burst (Message type, fig 4); the PBS control burst is transmitted on a wavelength different from that of an associated PBS data burst (field for Protocol type, fig 4; col 2, of page 86 further describe a protocol type that designate a particular wavelength for the data burst) and a label, for used in a generalized multi-protocol label swapping (GMPLS)-based system, has been established for the PBS burst frame (col 1, paragraph 3 of page 85 describes additional fields maybe used for MPLS label related information).*

Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to have fields in Liu's header that is common to control bursts and data burst to indicate whether: the PBS control burst is transmitted on a wavelength different from that of an associated PBS data burst; and a label, for used in a generalized multi-protocol label swapping (GMPLS)-based system, has been established for the PBS burst frame as suggested by Baldine. The motivation for doing so would have been to take advantage of the vast amount of bandwidth and the special properties of the optical medium more fully than other approaches by combining simplicity in control and signaling with a rich feature set (*Baldine, page 89*).

Claims 15 and 29 are rejected for the same reasons as stated above regarding claims 1 and 43, because in addition to the limitations in claims 1 and 43, Liu teaches optically transmitting the PBS burst frame over the PBS network (*paragraph 115, "information in the packets are converted to bursts, which propagate through the optical burst switched network 4"*,

Art Unit: 2613

*fig 1*). It would have been obvious to combine Liu and Baldine for the same reason as stated regarding claims 1 and 43.

As to claims 4, 18, 32, and 46, Liu further discloses wherein the PBS burst header further includes a field to indicate the length of the PBS burst (*paragraph 132, Table 5, "Burst length"*).

As to claims 4, 18, 32, and 46, Baldine further discloses wherein the PBS burst header further includes a field to indicate the length of the PBS burst (*fig 4, "Message length"*).

As to claims 5, 19, 33, and 47, Liu further discloses wherein the PBS burst frame (*fig 28*) further includes a PBS burst payload (*SSSL\_D PAYLOAD, fig 28*) having a payload header field (*BURST HEADER, fig 28*) and a payload data field (*DATA BURST PAYLOAD, fig 28*).

As to claims 7, 21, 35, and 49, Liu further discloses wherein the payload header field further includes a field to indicate the information's address type (*Burst Type, TABLE 5*).

As to claims 8, 22, 36, and 50, Liu further discloses wherein the *Burst Header Packet Payload* further includes a field to indicate the wavelength of the associated PBS data burst if the PBS burst frame contains a PBS control burst (*Ingress Data Channel, TABLE 7*), where placing the information in payload header field or *Burst Header Packet Payload* is merely an engineering design choice.

As to claims 9, 23, 37, and 51, Liu further discloses wherein the *Burst Header Packet Payload* further includes a field to carry the label of the PBS burst frame if the PBS burst

Art Unit: 2613

frame contains a PBS control burst (*MPLS Field, containing the MPLS label, TABLE 7*), where placing the information in payload header field or Burst Header Packet Payload is merely an engineering design choice.

As to claims 10, 24, 38, and 52, Liu further discloses wherein the *Burst Header Packet Payload* further includes a field to indicate a start time of the associated PBS data burst if the PBS burst frame contains a PBS control burst (*Burst time offset, indicating when will the burst arrives, TABLE 7*), where placing the information in payload header field or Burst Header Packet Payload is merely an engineering design choice.

As to claims 11, 25, 39, and 53, Liu further discloses wherein the payload header field includes a field to indicate whether the payload data field contains data to be concatenated if the PBS burst frame contains a PBS data burst (*Number of sub-packets, TABLE 5*).

As to claims 12, 26, 41, and 54, Liu further discloses wherein the payload header field includes a field to indicate whether the payload data field contains segmented data if the PBS burst frame contains a PBS data burst (*Number of sub-packets, TABLE 5*).

As to claims 13, 27, 42, and 56, Liu further discloses wherein the *Burst Header Packet Payload* further includes a field to indicate the payload data field's segment ID if the PBS data burst contains segmented data (*Ingress Data Channel Group ID, TABLE 7*), where placing the information in payload header field or Burst Header Packet Payload is merely an engineering design choice.

As to claims 14, 28, 40, and 55, Liu further discloses wherein the payload header field includes a field to indicate whether the payload data field contains a frame check sequence (*Fig 28, PAYLOAD PARITY*).

Regarding to claims 6, 20, 34, and 48, Baldine further teaches a system for use in a wavelength-division multiplexed (WDM) photonic burst switched (PBS) network (*page 82*), by formatting information in a PBS burst frame (*fig 4*) to include a field to indicate the wavelength of the PBS control burst if the PBS burst frame contains a PBS control burst (*page 86, col 2- page 87, col 1*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to use Liu's burst framer to format the PBS burst frame so as to include a field to indicate the wavelength of the PBS control burst if the PBS burst frame contains a PBS control burst as suggested by Baldine for the same reasons as stated above.

4. Claims 2, 16, 30, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (*US 20020154360A1*), in view of Baldine et al., "Jumpstart: A Just-in-Time Signaling Architecture for WDM Burst-Switched Networks," *IEEE Commun. Mag.*, vol. 40, no. 2, pp. 82-89, Feb. 2002, as applied to claims 1, 15, 29, and 43 above, and further in view of Murakami et al. (*US5768274*).

Regarding to claims 2, 16, 30, and 44, the combination of Liu and Baldine discloses the system in accordance to claims 1, 15, 29, and 43 as discussed above. Liu further discloses a process for error detection (*paragraph 133*). The combination of Liu and Baldine does not disclose expressly wherein the PBS burst header further includes a field to indicate a header error correction (HEC) value and a field to indicate whether the HEC value is present.



Art Unit: 2613

Murakami, from the same field of endeavor, teaches a system for transmitting a packet over a telecommunication network, wherein the header of the packet further includes a field to indicate a header error correction (HEC) value (*col 5, ln 57-67*), and a field to indicate whether the HEC value is present (*H2, fig 4*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to include a field to indicate a header error correction (HEC) value and a field to indicate whether the HEC value is present on the combination of Liu and Baldine's PBS system as taught by Murakami to perform error detection as suggested by Liu. The motivation for doing so would have been to apply a common and well known way of error checking procedure onto the combination of Liu and Baldine's PBS system, such that error detection and correction can be performed by checking the header error correction field in the header.

5. Claims 3, 17, 31, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (*US 20020154360A1*), in view of Baldine et al., "Jumpstart: A Just-in-Time Signaling Architecture for WDM Burst-Switched Networks," *IEEE Commun. Mag.*, vol. 40, no. 2, pp. 82-89, Feb. 2002., as applied to claims 1, 15, 29, and 43 above, and further in view of Yoo (*US006925257B2*).

Regarding to claims 3, 17, 31, and 45, the combination of Liu and Baldine discloses the system in accordance to claims 1, 15, 29, and 43 as discussed above. It does not disclose expressly wherein the PBS burst header further includes a field to indicate the priority of the PBS burst. Yoo, from the same field of endeavor, teaches a system for use in a wavelength-

Art Unit: 2613

division multiplexed (WDM) photonic burst switched (PBS) network (*fig 6*), the system makes routing decision based on a header content, wherein the header further includes a field to indicate the priority of the burst (*col 9, ln 11-20; col 10, ln 57-62*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to indicate the priority of the burst in the header onto the combination of Liu and Baldine's system as taught by Yoo. The motivation for doing so would have been to optimize network performance by performing switching based on the priority of the burst as indicated on a header field as suggested by Yoo.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 15, 29, and 43 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

7. The prior art made of record in previous actions and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Wai Lun Leung whose telephone number is (571) 272-5504. The examiner can normally be reached on 9:30am-9:00pm Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DWL

February 9, 2007

  
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